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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MICHAEL DEADDIO

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HUGHES HUBBARD & REED LLP  
ONE BATTERY PARK PLAZA  
NEW YORK, NY 10004

EXAMINER

FELTEN, DANIEL S

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/127,341	<b>Applicant(s)</b> DEADDIO ET AL.	
	<b>Examiner</b> DANIEL S. FELTEN	<b>Art Unit</b> 3696	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-23 and 25-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-23 and 25-31 is/are rejected.
- 7) ☒ Claim(s) 23, 29 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Receipt of the amendment filed December 26, 2007 amending claim 21 cancelling claim 24 is acknowledged

#### ***Election/Restrictions***

2. Applicant's election without traverse of Group I (claims 21-31) in the reply filed on April 17, 2008 is acknowledged. Thus claims 21-23 and 25-31 are presented to be examined upon their merits.

#### ***Response to Arguments***

3. In view of the telephonic interviews with Mr. Abramson (Reg. No. 34, 762) on July 19, 2006 and July 27, 2006, the finality of the prior office action rejecting the claims using Marshall in view of Garman is hereby WITHDRAWN. However, upon further consideration of the claims, a new ground(s) of rejection is made in view of Benaroch et al and Moore et al.

#### ***Claim Objections***

4. Claims 23, 29 and 31 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Re claim 23: the claim calls for "a second processor" but claim 21 discloses at least one "processing object" which can be define as something other than a processor, but can be interpreted as an allocated region of storage (as in relational database) with a set of instructions that work on a set of data. It is also uncertain that the processing object in claim 21 is software or hardware, or both.

Re claim 29: the claim calls for "a plurality of processors" but claim 21 discloses at least one "processing object" which can be define as something other than a processor, but can be interpreted as *one* allocated region of storage (as in relational database) with a set of instructions that work on a set of data.

Re claim 31: depends from claim 23.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 21-23 and 25-31 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps.

See MPEP § 2172.01. The omitted steps are:

Re claim 21: the steps that are employed by the processing object which defines the processing to be performed for a plurality of event types.

Re claim 22: The steps that are employed in how the instrument inputs combine to produce a series of financial event streams

Re claim 23: The steps that are employed by the second processor when acting upon said static representation so as to generate an event representation

7. Claims 21-23 and 25-31 provides for the use of a method for processing financial instruments, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it

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merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 21-23 and 25-31 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd. App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

8. Claims 21-23 and 25-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 21: The applicant's method of processing financial instruments is unclear because it is uncertain what steps are required to perform the process. It is also unclear how a method for processing financial *instruments* relates to a single representation of said *instrument*. Shouldn't *instrument* be changed to –instruments--?

Re claim 29: "wherein a plurality of processors *may be* utilized to provide *alternative methods* of performing *a type of processing* upon an instrument..." is indefinite because the phrase "may be" does not positively recite the limitation, but merely suggests that there is a potential that the limitation is performed. The phrase "alternative methods" is indefinite, because one of ordinary skill in the art at the time of the invention would not know what methods the applicant is referring to. The phrase, "...a type of processing upon an instrument..." is also indefinite because one of ordinary skill in the art would not be able to know the particular processing that was being performed in the instrument.

9. Claim 21-23 and 25-31 recites the limitation "said instrument" in claim 21. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 21-23, 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benaroch et al., "*An Intelligent Assistant for Financial Hedging*," IEEE, 1991, pp. 168-174. in view of Moore et al (US 5,446,885)

**Re claim 21:** Benaroch discloses a method for processing financial instruments (see Introduction, pp. 168-169) comprising (knowledge) representation of said instrument and at least one processing object that defines the processing to be performed for a plurality of event types (see page 168, column 2, lines 6-33), wherein said representation comprises a static representation (experience and beliefs) and an event representation (economic factors) of said instrument (see page 168, column 2, lines 6-33; and page 169, "The Domain," column 1, )

Benaroch suggests the use of expert systems technology in the design of an intelligent assistant for hedging based upon rule-base characteristics of the hedge vehicle. Benaroch also suggests that an appropriate technology for the implementation of an expert system for hedging must primarily provide tools that support the object-oriented nature underlying a representation (see "5 Current Status," page 173, column 1 to page 173, column 2).

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Benaroch fails to disclose *a processor* processing object performs said processing by acting upon the events of said event representation, and wherein said representation is specified independently from said at least one processing object .

Moore suggests an expert system that have objects/rules that are separated from the application, (see Moore, column 2, lines 1-12; and column 1, lines 62-68), having a host *processor 106*, where inputs into the Global Risk Management System (GRMS) are treated as events that the GRMS must process and analyze to produce information for exposure to risk management (see Moore column 4, lines 19-68).

It would have been obvious for an artisan at the time of Benaroch to recognize the fact that, in the design of hedging vehicles, combinations of traded financial instruments (e.g., bonds, stocks, options, etc.,) are employed to prevent exposure to losses by reducing risks associated with specific future events, and thereby, increasing profits (see Benaroch, Introduction, page 168). Thus it would been obvious to employ the Global Risk Management System (GRMS)(108) of Moore into the hedge vehicles disclosed by Benaroch to determine the financial risk associated with the design (or rules being applied to) of various financial instruments (see Benaroch).

**Re claim 22:** said static representation further comprises said instrument's inputs, the relationships of said inputs with each other, and how said relationships combine to produce a series of financial event streams (see column2, page 169 to column 1, page 170, "3 Knowledge Representation," and page 172, column 1, "4.1 The Input").

**Re claim 23:** a second processor acts upon said static representation and a set of instrument parameters in order to generate said event representation, and wherein said second

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processor is specified independently of the specification of said static representation (see reasoning provided for claim 21)

**Re claims 25 and 26:** Double dispatch is a mechanism that dispatches a function call to different concrete functions depending on the runtime types of multiple objects involved in the call. In most object oriented systems (e.g., C++), the concrete function that is called from a function call in the code depends on the dynamic type of a single object (or single dispatch calls). Double dispatch is useful in event handling situations found in hedge vehicles, where the design of the vehicle is influenced by the event to be hedged. Therefore OFFICIAL NOTICE is taken of the double dispatch technique being an obvious extension of the hedging techniques employed in Benaroch in view of Moore in the description of feasibility constraints disclosed design of hedging vehicles.

**Re claims 27 and 28:** Polymorphism is a programming language feature that allows values of different data types to be handled using a uniform interface. The concept of parametric polymorphism applies to both data types and functions. A function that can evaluate to or be applied to values of different types is known as a *polymorphic function*. A data type that can appear to be of a generalized type (e.g., a list with elements of arbitrary type) is designated *polymorphic data type* like the generalized type from which such specializations are made. OFFICIAL NOTICE is taken of the notoriously old and well known technique of polymorphism, being an obvious extension to the teachings of Benaroch in view of Moore in designing hedging vehicles.



**Re claim 29:** a plurality of processors may be utilized to provide alternate methods of performing a type of processing upon said instrument without changing the representation of said instrument. (see reasoning provided for claim 21)

**Re claim 30 and 31:** wherein said event representation is composed from a set of sets of primitives (see Moore, column 2, lines 35-36).

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL S. FELTEN whose telephone number is (571)272-6742. The examiner can normally be reached on Flex.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Dixon can be reached on (571) 272-6803. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel S Felten  
Primary Examiner  
Art Unit 3696

/Daniel S Felten/  
Primary Examiner, Art Unit 3696